

7-31-12

## MULTIPLYING & DIVIDING BY POWERS OF 10

(10 w/ an exponent)

$$10^2 = 10 \times 10 = 100$$

$$10^3 = 10 \times 10 \times 10 = 1000$$

$$10^6 = 10 \times 10 \times 10 \times 10 \times 10 \times 10 = 1,000,000$$

$$10^1 = 10$$

$$10^0 = 1$$

\*\* The exponent tells how many zeroes  
(when 10 is the base #)

\*\* When multiplying by powers of 10, move  
the dec. pt. to the RIGHT according to the  
exponent (the # of zeroes)

$$\text{Ex: } 52.\overset{\circ}{\underset{\circ}{\underset{\circ}{000}}} \times 10^3 = 52,000$$

$$\text{Ex: } 4.\overset{\circ}{\underset{\circ}{\underset{\circ}{635}}} \times 10^2 = 463.5$$

$$\text{Ex: } 0.\overset{\circ}{\underset{\circ}{\underset{\circ}{\underset{\circ}{8000}}} \times 10^4 = 8,000$$

\*\* When DIVIDING by powers of 10,  
move the dec. pt. to the LEFT according  
to the exponent.

Ex: ~~52~~ 52  $\div 10^3 = .052$

Ex: 4,635  $\div 10^2 = .04635$

Ex: 0.0008  $\div 10^4 = .00008$